

farbfemseh service-kurzanleitung. istruzioni tecniche per televisori a colori. colour television service manual. televisión en color breves instrucciones para servicio técnico.

LOEWE.

Zur Beachtung

Dieses Gerät ist über den Wandler-Trafo vom Netz getrennt. Bei Service-Arbeiten an der Primärseite dieses Trafos ist ein Trenn-Trafo erforderlich.

Attenzione

Quest'apparecchio è separato dalla rete con trasformatore separatore incorporato. Per lavori d'assistenza sul lato primario di questo trasformatore servirsi di un secondo trasformatore separatore.

Demontageanleitung

ABNEHMEN DER RÜCKWAND
Drehen Sie die vier (4) bzw. sechs (6) Schrauben auf der Geräterückseite heraus, und nehmen Sie die Rückwand vorsichtig nach hinten ab.

HERAUSNEHMEN DES HAUPTCHASSIS
Fassen Sie das Hauptchassis an beiden Seiten, und ziehen Sie es vorsichtig heraus.

AUSBAU DER LAUTSPRECHERGRUPPE
1. Lösen Sie den Steckverbinder P602 zwischen Lautsprecher und Hauptchassis.
2. Entfernen Sie die acht (8) Schrauben, mit denen der Lautsprecher an der Schallwand befestigt ist.

HERAUSNEHMEN DER VT-PLATINE
Fassen Sie die Videotextplatte in der Mitte, und ziehen Sie sie nach oben aus dem Chassis heraus.

AUSBAU DER BILDROHRE
1. Ziehen Sie die Bildrohr-Platte vom Bildrohr ab.
2. Legen Sie das Gerät mit der Gehäusefront auf eine weiche Unterlage.
3. Entfernen Sie die vier (4) Schrauben, mit denen die Röhre an der Gehäusefront befestigt ist.
4. Heben Sie die Bildröhre vorsichtig aus dem Gehäuse heraus.

VORSICHT BEI DER HANDHABUNG DER BILDROHRE!!!
Wegen des hohen Vakuums und der großen Oberfläche erfordert die Handhabung der Bildröhre höchste Sorgfalt. Fassen Sie die Bildröhre beim Heben stets "n u r" am Bildschirmrand an, JEDOCH NIEMALS AM RÖHRENHAUSE!!! Achten Sie außerdem darauf, daß die Röhre weder verkratzt noch übermäßigem Druck ausgesetzt wird. Im Falle eines Glasbruches kann es zu einer Implosion mit Personen- oder/und Sachschäden kommen.

Disassembly instructions

BACK CABINET REMOVAL
Remove 4-6 screws residing on the back cabinet and carefully separate the back cabinet from the front cabinet.

MAIN CHASSIS REMOVAL
Grasp both sides of the main chassis and pull it backward smoothly.

SPEAKER ASSY REMOVAL
1. Remove P602 connector between the speaker and the main chassis.
2. Remove 8 screws holding speaker to the front cabinet.

TXT BOARD REMOVAL
Grasp the center area of the TXT board and then pull it up.

CPT REMOVAL
1. Pull out the CPT board from the CPT neck.
2. Place the front cabinet on soft material.
3. Remove 4 nuts securing the picture tube mounting brackets to the front cabinet.
4. Carefully separate CPT from the front cabinet.

PICTURE TUBE HANDLING CAUTION!!!
Due to high vacuum and large surface area of picture tube, great care must be exercised when handling picture tube. Always lift picture tube by grasping it firmly around faceplate. NEVER LIFT TUBE BY ITS NECK! The picture tube must not be scratched or subjected to excessive pressure as fracture of glass may result in an implosion of considerable violence which can cause personal injury or property damage.

Important note

This set is disconnected from the power supply through the converter transformer. An isolating transformer is necessary for service operations on the primary side of the converter transformer.

Para su observación

Este aparato está separado de la red de alimentación por medio de transformador-conversor. Se necesita un transformador de separación al hacer trabajos de servicio técnico en el primario de este transformador.

Istruzioni di smontaggio

RIMOZIONE DEL MOBILE POSTERIORE
Togliere le 4-6 viti che fissano il mobile posteriore e separare accuratamente il mobile posteriore dal mobile anteriore.

RIMOZIONE DEL TELAIO PRINCIPALE
Afferrare il telaio principale sui due lati ed estrarlo delicatamente verso il retro.

RIMOZIONE DEL GRUPPO ALTOPARLANTI
1. Estrarre il connettore P602 fra gli altoparlanti e il telaio principale.
2. Togliere le 8 viti che fissano gli altoparlanti al mobile anteriore.

RIMOZIONE DELLA SCHEDA TXT
Afferrare la parte centrale della scheda ed estrarla.

RIMOZIONE DEL CINESCOPIO CPT
1. Estrarre la scheda CPT dal collo del cinescopio.
2. Appoggiare il mobile anteriore su materiale morbido in modo da non danneggiare la superficie anteriore o i pulsanti di comando.
3. Togliere i 4 dadi che fissano le alette del cinescopio al mobile anteriore.
4. Separare accuratamente il cinescopio dal mobile anteriore.

PRECAUZIONI NEL MANEGGIARE IL CINESCOPIO!!!
Si faccia attenzione che, a causa del vuoto spinto all'interno del cinescopio e della superficie anteriore molto estesa, occorre maneggiare il cinescopio con molta cautela. Si sollevi il cinescopio prendendolo sempre fermamente intorno alla superficie frontale. NON SOLLEVARE MAI IL CINESCOPIO PRENDENDOLO DAL COLLO! Non si deve mai graffiare né sottoporre ad eccessiva pressione il cinescopio. Una frattura nel vetro potrebbe causare un'implosione di elevata violenza che, a sua volta, potrebbe causare danni alle persone o al patrimonio.

Instrucciones de desarmado

DESARMADO DE LA CUBIERTA TRASERA
Quitar los 4-6 tornillos situados en la cubierta trasera y separarla de la cubierta delantera.

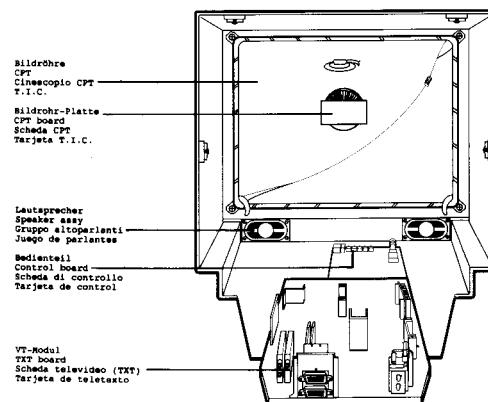
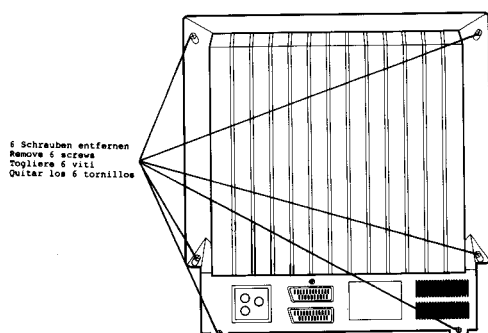
DESARMADO DEL CHASIS PRINCIPAL
Sostener el chasis principal por ambos lados y tirar hacia atrás de manera uniforme.

DESARMADO DEL JUEGO DE PARLANTES
1. Retirar el conector P602 ubicado entre el parlante y el chasis principal.
2. Retirar los 8 tornillos que sujetan los parlantes a la cubierta delantera.

DESARMADO DE LA TARJETA DE TELETXT
Sujetar la tarjeta de teletexto por su parte central y tirar hacia arriba.

DESARMADO DEL T.I.C.
1. Retirar la tarjeta del T.I.C. del cuello del tubo.
2. Colocar la cubierta delantera sobre un material blando, para evitar que se estropee la superficie.
3. De la misma o que se dañe el panel de control.
Quitar las 4 tuercas que aseguran los soportes del tubo de imagen a la cubierta delantera.
Separar cuidadosamente el T.I.C. de la cubierta delantera.

PRECAUCION AL OPERAR CON EL TUBO DE IMAGEN!
Debido al alto vacío y a la gran superficie que presenta el tubo de imagen, se deberá tener el máximo cuidado cuando se opere con él. Levante el tubo imagen sujetándolo siempre con firmeza alrededor de su cara frontal. NUNCA LEVANTE EL TUBO POR EL CUELLO. El tubo imagen no debe ser rasgado ni sometido a una presión excesiva, puesto que la fractura del vidrio puede dar como resultado una implosión de considerable violencia que ocasione daños materiales o personales.



Concept 370	Art.-Nr. 53431	Concept 550	Art.-Nr. 52471
Concept 370 SAT	Art.-Nr. 53438	Concept 550 VT	Art.-Nr. 52472
Concept 400 VT	Art.-Nr. 52442	Concept 550 SAT	Art.-Nr. 52478

Änderungen vorbehalten

Con riserva di modifiche / Subject to modification / Salvo modificaciones

C 8700

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Bildschirmtext *50705#(Info)
*50705990#(ET-Best.)

Ausgabe / edizione / édition / edición

1. VIF adjustment

- ① Connect equipment to the main chassis referring to fig.1.
- ② Vary the controller of the alignment scope 1 so that the waveform's size may be proper for adjustment.
- ③ Vary L103 the 38.9MHz to be located as shown in fig.3.

2. AFT adjustment

- ① Adjust AFT after VIF adjustment.
- ② Vary the controller of the alignment scope 2 so that the waveform's size may be proper for adjustment.
- ③ Confirm the output from the SWEEP GENERATOR whether the set condition is correct or not.
- ④ If it is not correct, vary the RF ATENUATOR(1-10dB).
- ⑤ Vary L102 the 38.9MHz to be located as shown in fig.4.
- ⑥ Short SL1.

3. COLOR SYNC adjustment

- ① Connect equipment to the chroma board referring to fig.5.
- ② Supply the digital pattern signal to the TV.
- ③ Set the color, contrast, brightness to normal using the remote control key (→, ←).
- ④ Connect the pin 6(color) of IC501 to the pin 1(12V) of IC501.
- ⑤ Short the 21(B-Y) of IC501 and the pin 22(R-Y).
- ⑥ Vary VC01(trimmer capacitor) so that the color bar does not flow.

4. MATRIX adjustment

- ① Adjust MATRIX after COLOR SYNC adjustment.
- ② Supply the digital pattern signal to the TV.
- ③ Set the color, contrast, brightness to normal using the remote control key(→, ←).
- ④ Connect the IN1 terminal of the oscilloscope the R518 as shown in fig.5.
- ⑤ Vary VR501 so that the amplitude A may be minimized as shown in fig.6.
- ⑥ Vary L502 so that the amplitude B may be minimized as shown in fig.6.

5. RF AGC adjustment

- ① Supply the digital pattern(VHF-H, 60dB ± 1dB) signal to the TV.
- ② Set the color, contrast, brightness to normal using the remote control key(→, ←).
- ③ Connect the digital multimeter to J61(TP2), and its ground to ground of tuner.
- ④ Vary VR101 so that the voltage of RF AGC may be 6.0V ± 0.1V dc.

6. HORIZONTAL OSC adjustment

- ① Supply the digital pattern (VHF-H, 60dB ± 1dB) signal to the TV.
- ② Set the color, contrast, brightness to normal using the remote control key(→, ←).
- ③ Short J5 and J6.
- ④ Vary VR401 so that the screen may be centralized.
- ⑤ Disconnect J5 from J6.

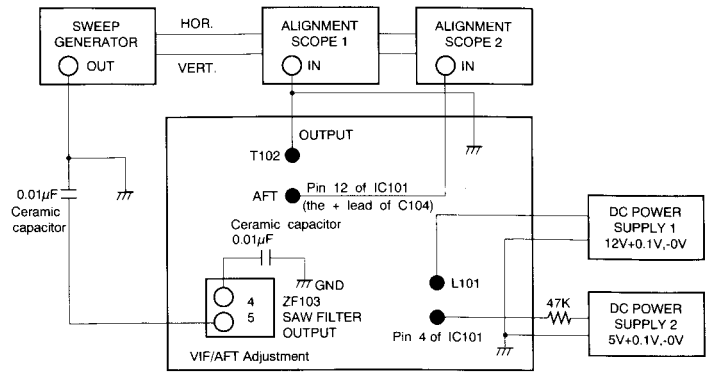


Fig. 1

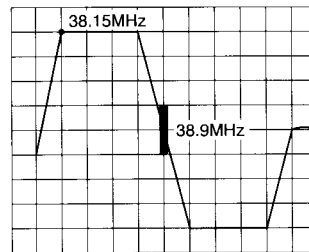


Fig. 2

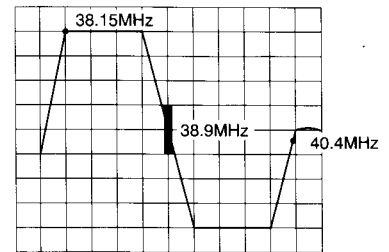


Fig. 4 AFT Adjustment Waveform

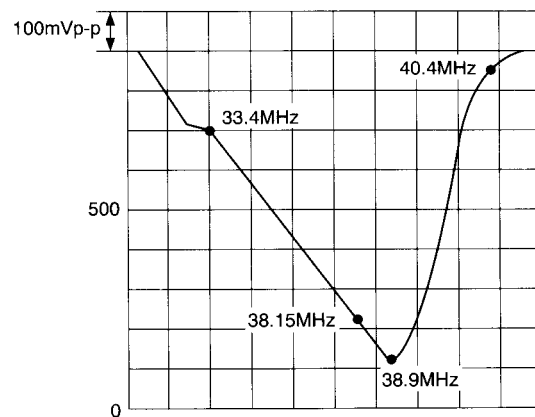


Fig. 3 VIF Adjustment Waveform

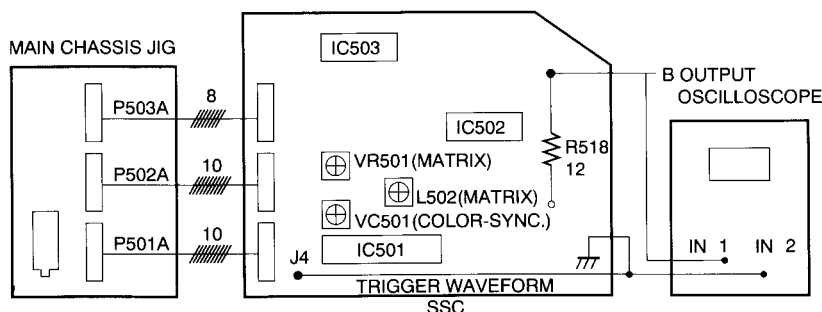


Fig. 5 Connection Diagram

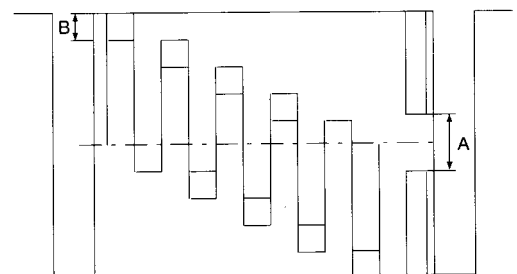


Fig. 6 1-H

7. HORIZONTAL SHIFT adjustment.

- ① Supply the digital pattern(VHF-H, 60dB $\pm$ 1dB) signal to the TV.
- ② Vary VR402 so that the screen may be centralized.

8. VERTICAL HEIGHT and LINEARTY adjustment.

- ① Supply the FBUK test pattern(VHF-H, 60dB $\pm$ 1dB) signal to the TV.
- ② Set the color, contrast, brightness to normal using the remote control key(→, ←).
- ③ Vary VR302 so that the screen may be centralized.
- ④ Change the FUBK test pattern signal into the digital pattern signal, vary VR302 so that the vertical size may be optimum.
- ⑤ Supply the color signal to the TV.
- ⑥ Set the color, contrast, brightness to normal using the remote control key(→, ←).

9. VERTICAL CENTER adjustment

- ① Supply the COLOR signal to the TV.
- ② Set the color, contrast, brightness to normal using the remote control key(→, ←).
- ③ Vary SW301 so that the screen may be centralized.

10. OSD LOCATION adjustment

- ① Supply the color signal to the TV.
- ② Set the color, contrast, brightness to normal using the remote control key(→, ←).
- ③ Press the MENU key on the remote control unit to make the main menu OSD appear on the screen.
- ④ Vary VC01 so that the character "f" may be located on the center as shown in fig.7.
- ⑤ This adjustment is available for the english language only.
Thus in case of other language, change it into the english language.
- ⑥ You can see the OSD language at the "LANGUAGE OSD MODE" on the main menu.

11. SCREEN VOLTAGE adjustment

- ① Supply the COLOR signal to the TV.
- ② Set VR901-VR903(BIAS), and VR904-VR905(DRIVE) to the mechanical center.
- ③ In the "factory service mode" press the "P-" key on the remote control unit with the "factory" key, then, Contrast, brightness, and color will be min. Now vary the screen voltage control volume of FBT to make the screen be cut-off.
Press the "P+" key so that brightness and color may be zero, contrast max.
- ④ Press the "P+" key, and then vary the screen voltage control until you cannot distinguish the 100% black from the 80% black.

13. WHITE BALANCE adjustment

- ① This adjust should be done after SCREEN VOLTAGE adjustment.
- ② Press the "normal" key on the remote control unit.
- ③ Set the marker point to be $X=283 \pm 8$, and $Y=295 \pm 8$ at the condition of LOW LIGHT(4ft.L) and HIGH LIGHT(45ft.L) by using the color analyzer balance checker as shown fig.8.

14. FOCUS adjustment

- ① Supply the COLOR signal to the TV.
- ② Set the color, contrast, brightness to normal using the remote control key(→, ←).
- ③ Vary the focus control volume of FBT lest the HALO symptom should appear anywhere.

15. P-P MEMORY

- ① Using the remote control unit with the "factory" key, change the mode into the "factory service mode".
- ② Change the mode into the TV mode.
When the factory service mode is changed into the TV mode, brightness, color, contrast are automatically set to normal.

16. TELETEXT F6(6.0 MHz Frequency) adjustment.

- ① Connect the frequency counter to the teletext board as shown in fig.9.
- ② Supply the TV signal with teletext signal(RF input signal:80dB $\pm$ 10dB).
- ③ Change the TV mode into the teletext mode.
- ④ Vary TC1 so that the frequency at TP1 appeared on the frequency counter may be between the 5,999,950Hz and the 6,000,050Hz.

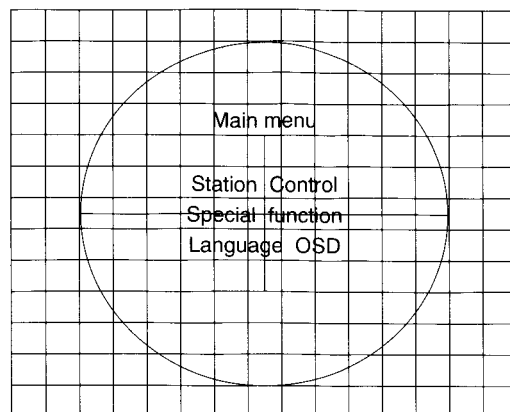


Fig. 7

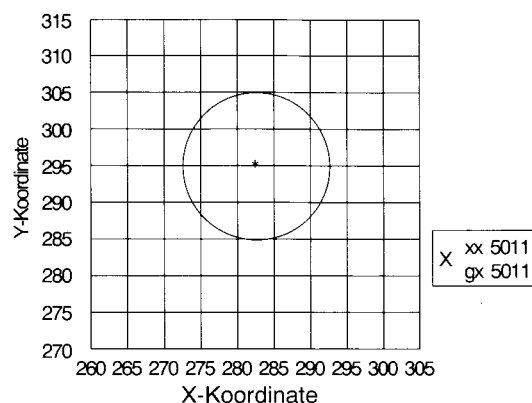


Fig. 8

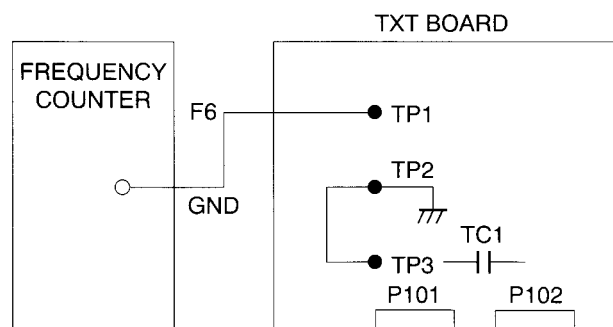


Fig. 9

17. SATELLITE BOARD adjustment

① Preparations

- Connect equipment as shown in fig.10.
- Set equipment referring to the below table.

Equipment	Item	Modulation Signal	Carrier Frequency	Deviation
Audio Generator	MAIN	1.0KHz	5.60 / 6.50	50KHz
122C FMX	SUB	400Hz	7.02 / 7.20 / 8.90	22KHz
Sat. Modulator	VIDEO	COLOR BAR	1320MHz (Pr. 20)	16MHz
122E VMX2	E DIS	25Hz		2.5MHz
	AUDIO	Audio Gen. output		M(3.6) / S(2.6)MHz
Mixer 122B SCA	Set the proportion(P/S) of the modulator output to be as shown in fig.15.			

- Make SW1 switch on.
- Supply the PAL COLOR BAR signal to the SATELLITE FM MODULATOR.
- Set the MAIN(280KHz) of the SATELLITE AUDIO to FREQ. 5.6MHz and 6.5MHz. FM DEMODULATION to ± 50 KHz, and the input signal to 1KHz. Set the SUB(150KHz) of the SATELLITE AUDIO to FREQ. 7.02MHz and 8.9MHz. FM DEMODULATION to ± 22 KHz, and the input signal to 400KHz. Set the FM DEMODULATION of the SATELLITE VIDEO to 16MHz p-p, and switch the ENERGY DISPERSAL and the PRE-EMPHASIS on.
- Connect the oscilloscope to the emitter of Q7, and set the DIV, to 0.5V.

① 10.7 MHz OSC adjustment

- Select the program No 20.(Program No 20 : 1,320MHz, Range : SAT. X)
- Press the service key on the factory service remote control unit for about 1 second, and the mode will be changed into the service mode, and the "FACTORY SERVICE" OSD will be displayed.
- Press the program list() key, and "SOUND:5.60" will be displayed.
- Vary L4 so that the frequency counter may be set to 16.30MHz ± 2 KHz.
- Press the program list() key again so that the "SOUND:8.90" may be displayed. And vary L4 so that the frequency counter may be set to 19.60MHz ± 2 KHz.
- Press the program list() key once more to make sure whether it is right or not.

② MAIN AUDIO CARRIER(10.7MHz, 280KHz) adjustment

- After the 10.7MHz OSC adjustment if you press the key "1", "SOUND:5.60" will be displayed.(If the 10.7MHz OSC adjustment is unnecessary because L4 is non-adjustment coil, select the program No. 20. And then press the program list() key in the factory service mode.)
- Vary L3 for the 1KHz sine-wave not to be distorted as shown in fig.11 looking on the scope.

③ SUB AUDIO CARRIER(10.7MHz, 150KHz) adjustment

- After MAIN AUDIO CARRIER adjustment if you press the key "4", "SOUND:7.02" will be displayed.(EXPANDA IS ON)
- Vary L2 for the 400Hz sine-wave not to be distorted as shown in fig.12 looking on the scope.
- If this adjustment is finished, make SW1 off and change the satellite board.

④ EXPENDER checking

- Select the sound 7.02 at the SAT DISH.
- Making the expander on and off, check whether the sine-wave is 1.2V p-p or not during on and 0.6V p-p during off as shown in fig.13.

⑤ VIDEO GAIN checking

- Select the main menu, station control, and SAT DISH by turns.
- Check it on the scope or on the screen whether it is normal when VIDEO gain is 1 or it is abnormal when VIDEO gain is 2.

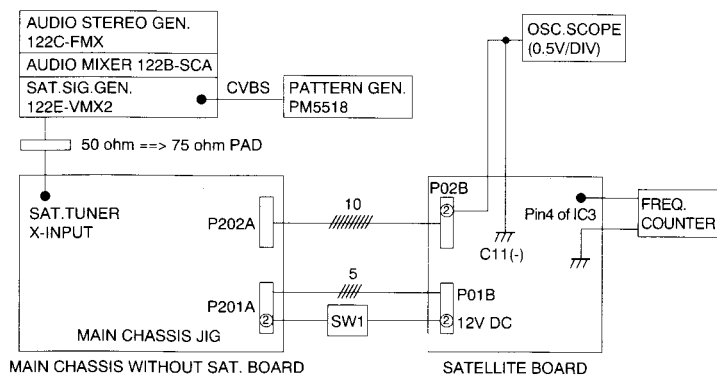


Fig. 10

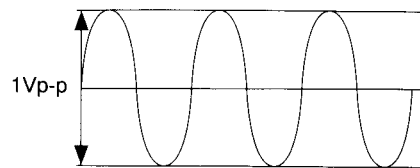


Fig. 11 1KHz SINE WAVEFORM

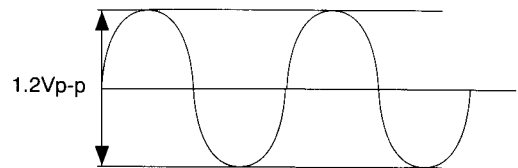
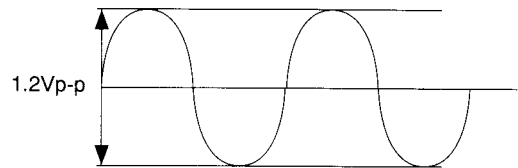
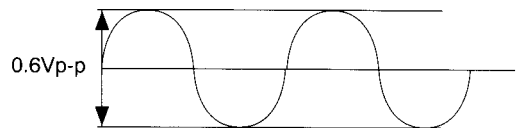


Fig. 12 400MHz SINE WAVEFORM

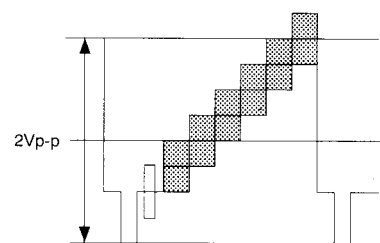


When the EXPENDER is ON.

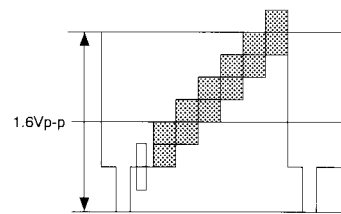


When the EXPENDER is OFF.

Fig. 13 400MHz SINE WAVEFORM



When the VIDEO gain is 1.



When the VIDEO gain is 2.

Fig. 14 1-H WAVEFORM

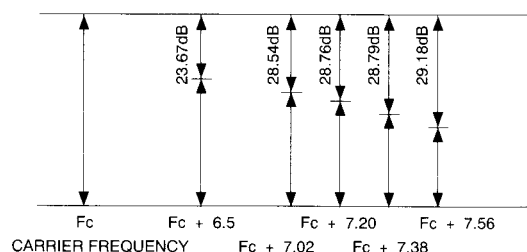
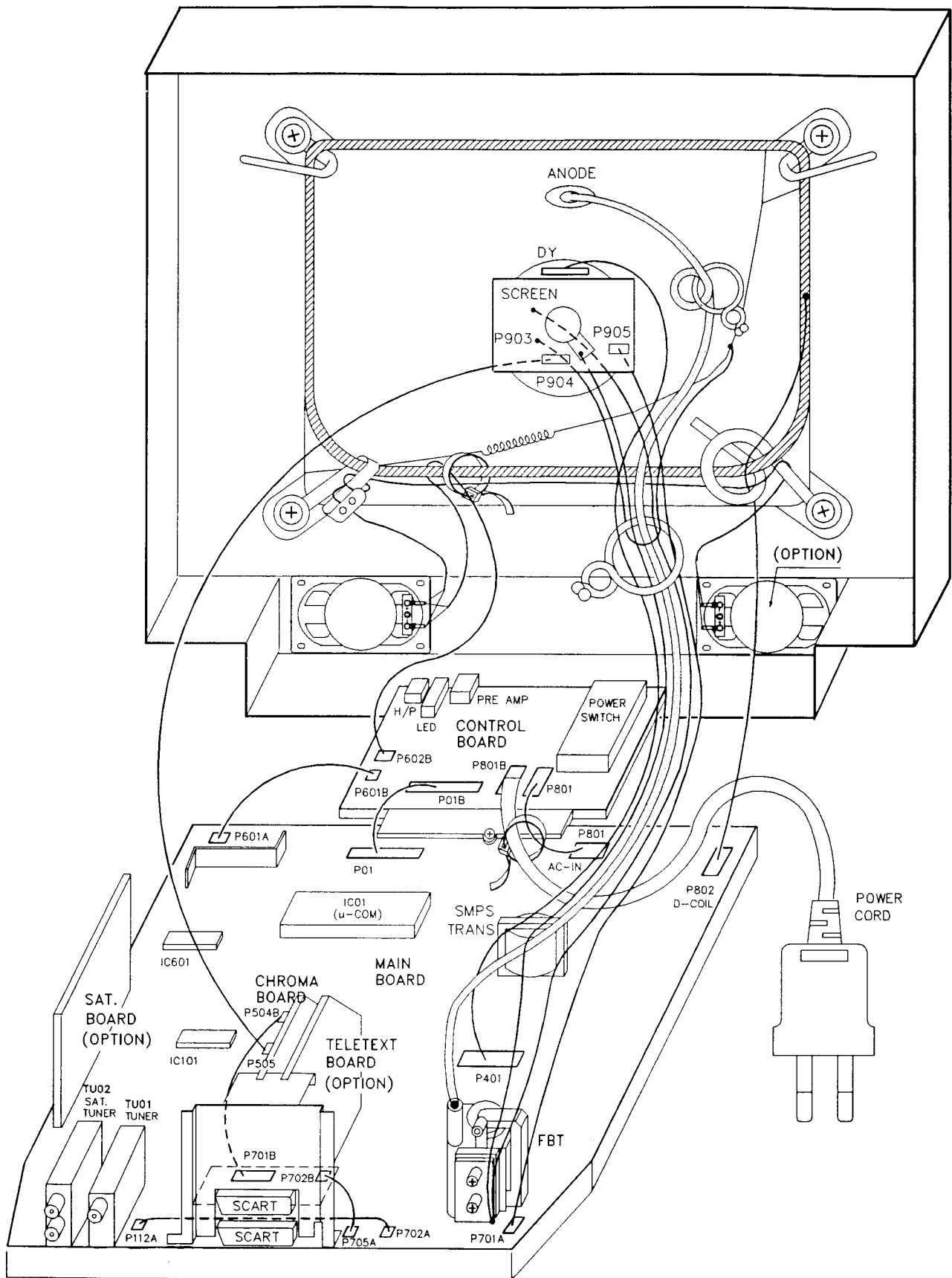
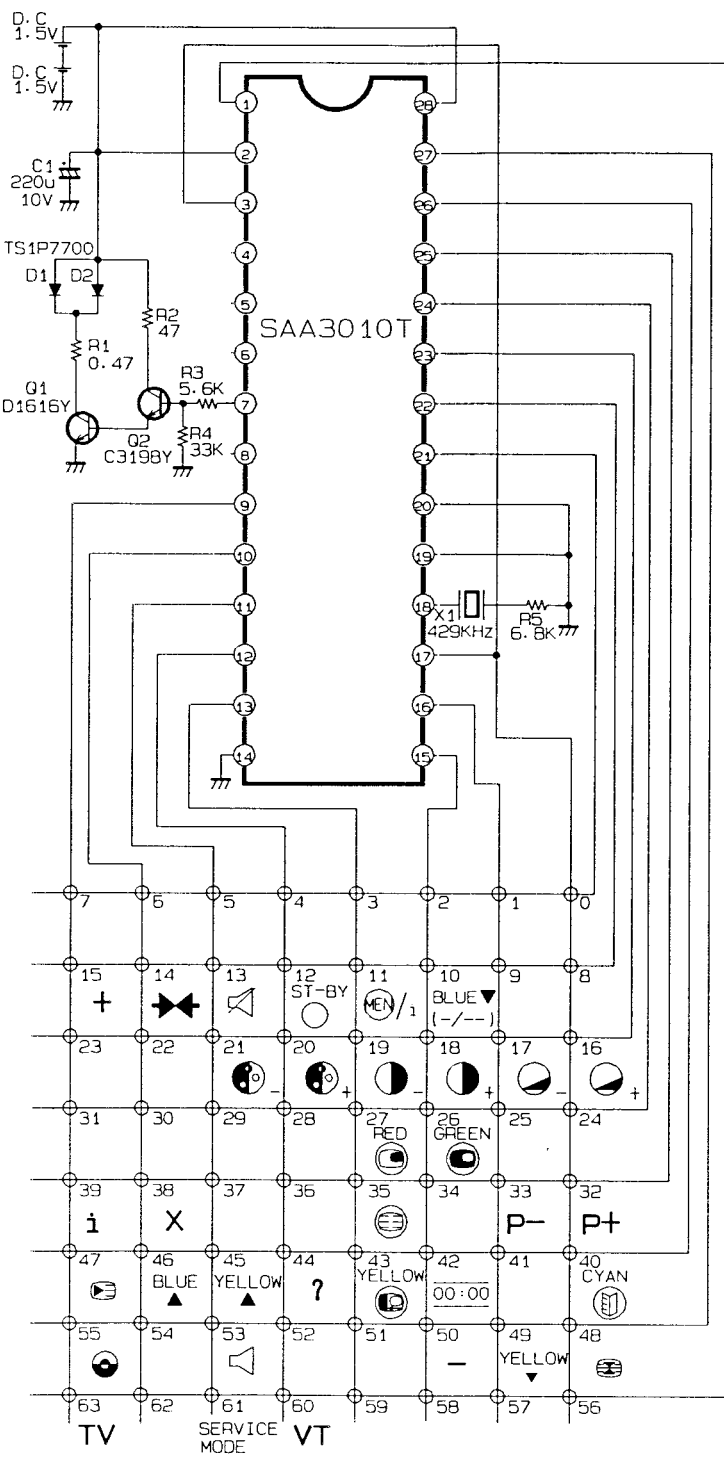


Fig. 15 SAT. RF OUTPUT P/S RATIO



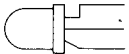
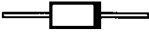
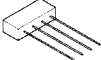
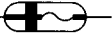
Verkabelungsplan
 Wiring diagram
 Schema di cablaggio
 Diagrama de cableado

Infrarot-Fernbedienung/ Telecomando infrarossi/ Infrared remote control
Mando a distancia por infrarrojos



Halbleiter-Anschlussbelegungen
Terminal view of semiconductor
Terminali dei semiconduttori
Detalle de los semiconductores

DIODEN/DIODE/DIODI/DIODO

FIGURE	DESCRIPTION	REFERENCE NO.
	1N4148	D901-903, D501-503, D101, D140, D141, D605, D704, D705, D707, D831, D1, D2, D3, D7, D8
	ZENER	ZD02-06, ZD101, ZD114, ZD115, ZD136, ZD137, ZD40, ZD401, ZD502, ZD601, ZD701, ZD801, ZD826, ZD90-93, ZD95
	DL-2LRG	LD801
	EU1AV	D803-807, D829
	1N4005	D310
	TVR06J	D401, D421, D422, D701-703, D706
	RGP-15J	D802, D822, D824, D825, D828
	RM3AMV	D821
	RB-156	D801
	FML-G12S	D823
	1K34A	D833, D835

TRANSISTOREN/TRANSISTORS/TRANSISTORI/TRANSISTORES

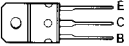
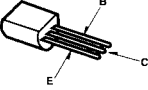
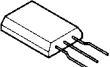
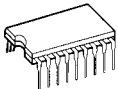
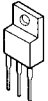
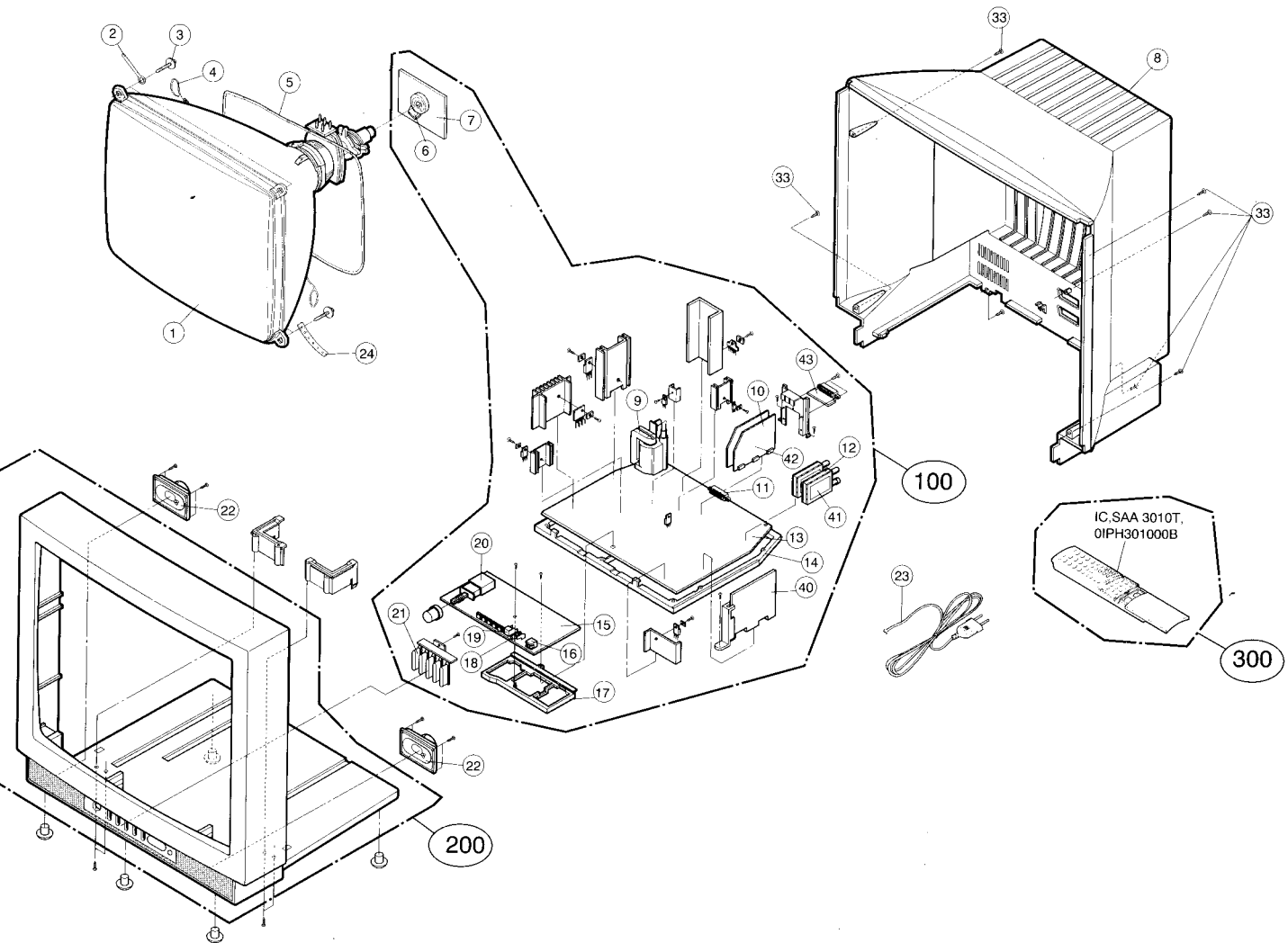
FIGURE	DESCRIPTION	REFERENCE NO.
	KTD1555	Q422
	KTC3198	Q101-103, Q2, Q3, Q321, Q322, Q4, Q401, Q5, Q501, Q502, Q822, Q823, Q829, Q834, Q836, Q90
	KTC1266	Q1, Q2, Q830, Q835

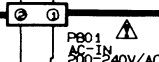
FIGURE	DESCRIPTION	REFERENCE NO.
	KTC2068	Q421, Q901-903
	KTA968A	Q821, Q832
	KTC1026	Q828, Q833
	KRC102M	Q601
	2SC 3852A	Q801

IC

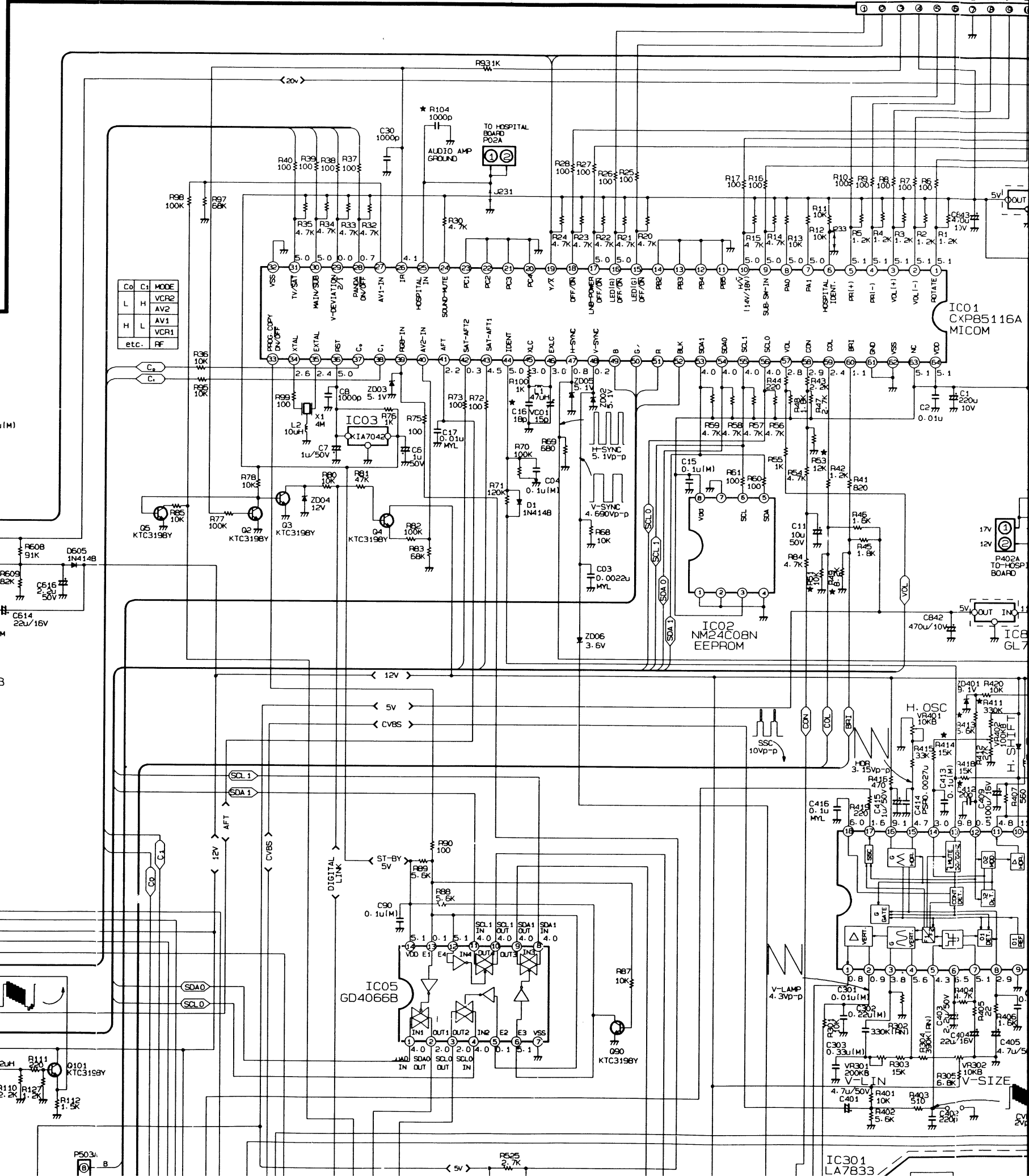
FIGURE	DESCRIPTION	REFERENCE NO.
	SAA5231	IC1
	GM76C88AL	IC3
	NE571N	IC4
	U4439BG	IC101
	TDA2579B	IC401
	TDA3561A	IC501
	AN5860	IC502
	U2840	IC601
	GS8318-05A	IC01
	SAA52439P/E	IC2
	P83C654EBP	IC4
	NM24C08N	IC02
	X24C02P	IC5
	KIA7809P	IC6
	GL317	IC804
	GL7805	IC7, IC805, IC806
	GL7808	IC6
	GL7820	IC806
	LA7222	IC2, IC5
	STR6707	IC801
	TDA6160/2X	IC3
	AN8910S	IC1

Explosionszeichnung
Exploded view
Vista esplosa
Despiece

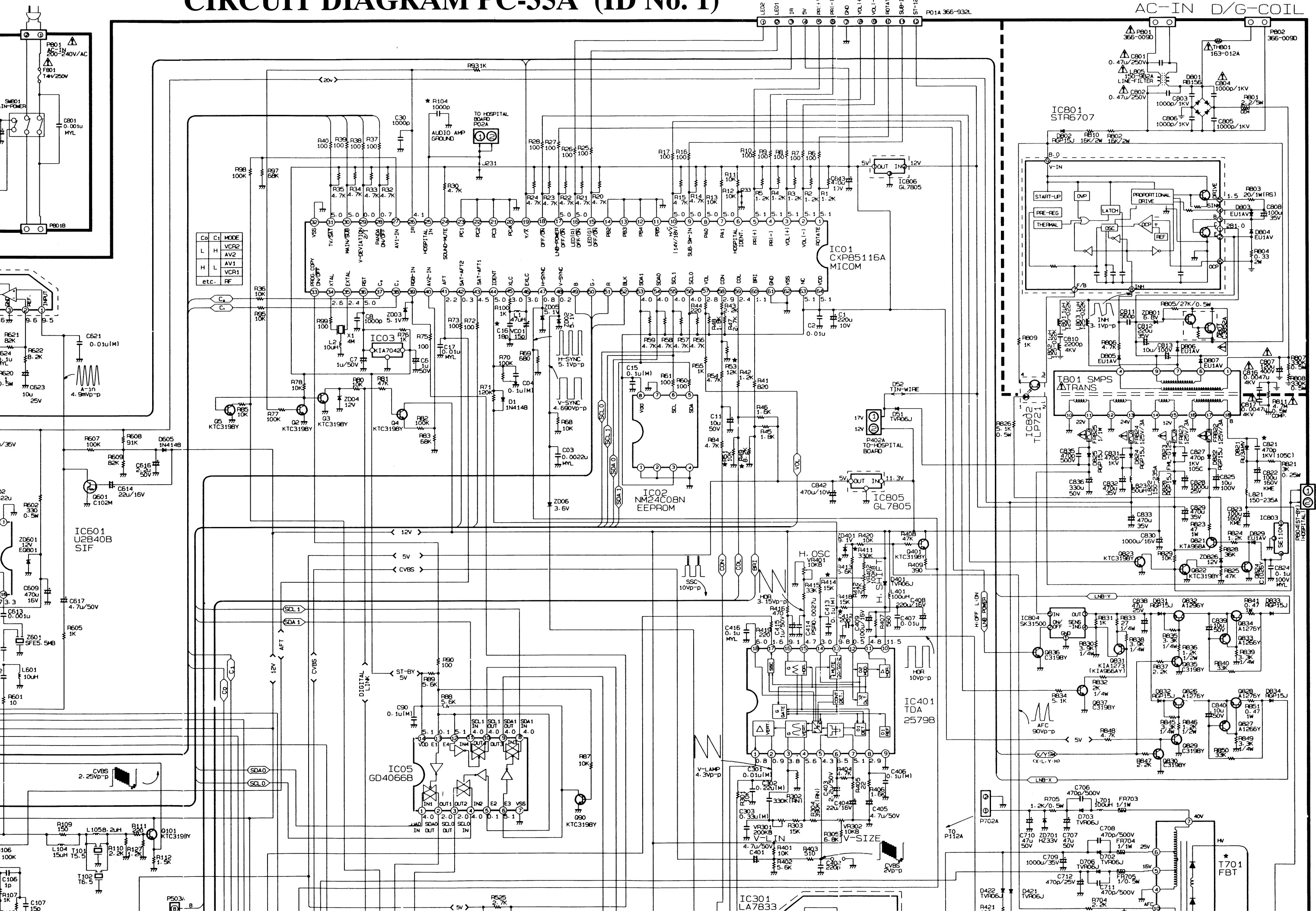


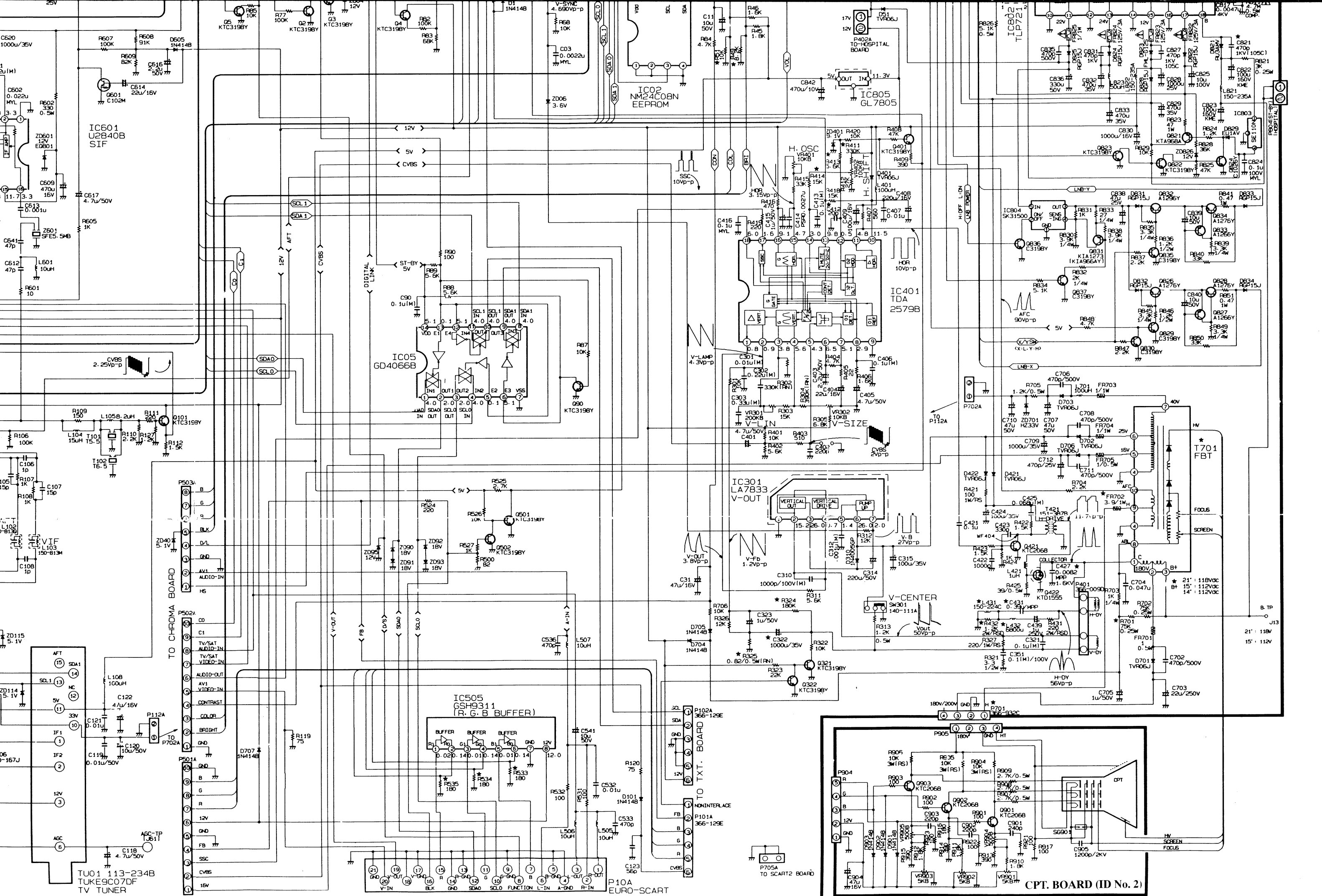


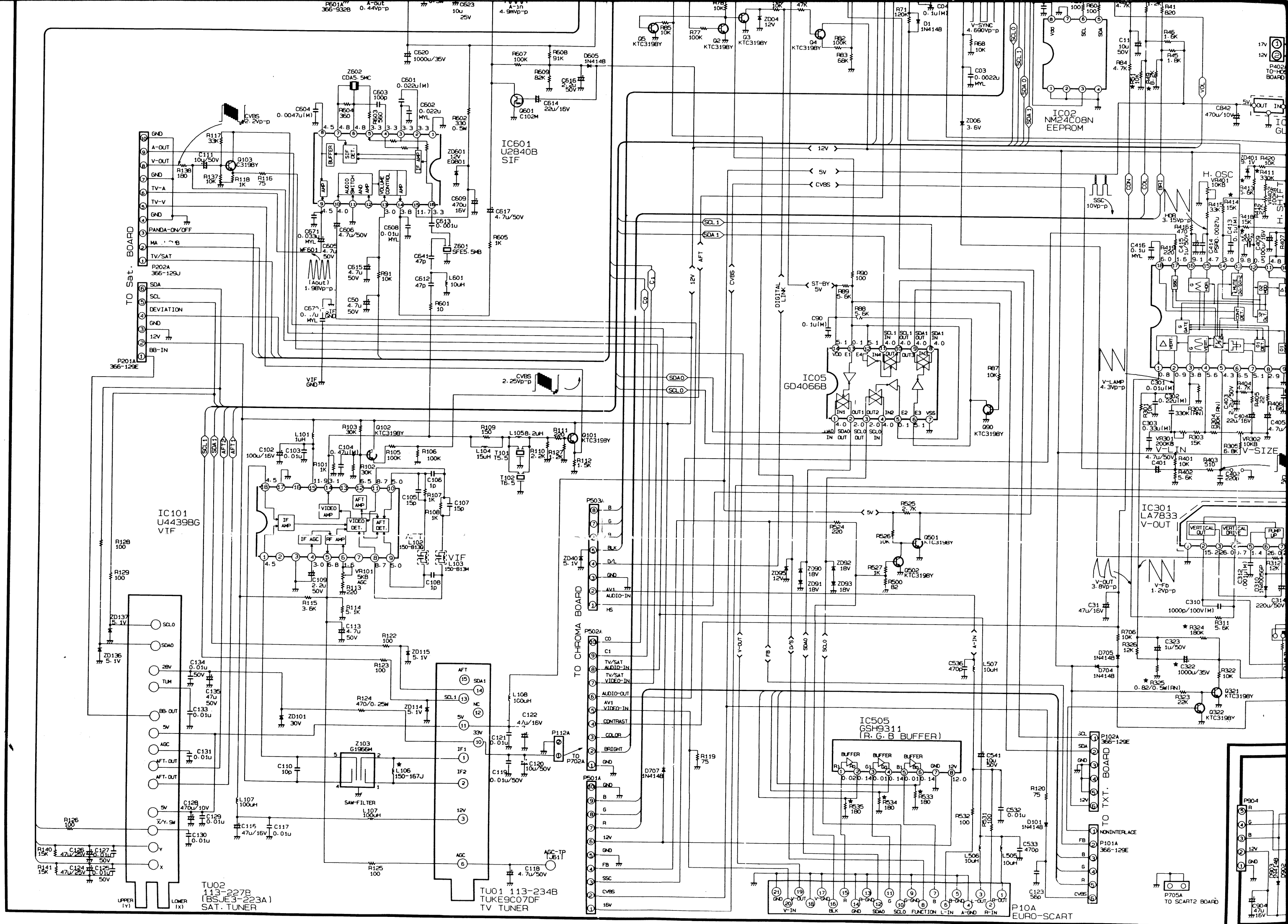
LED2	LED1	IR	5V	PR1(+)	PR1(-)	GND	VOL1(+)	VOL1(-)
②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

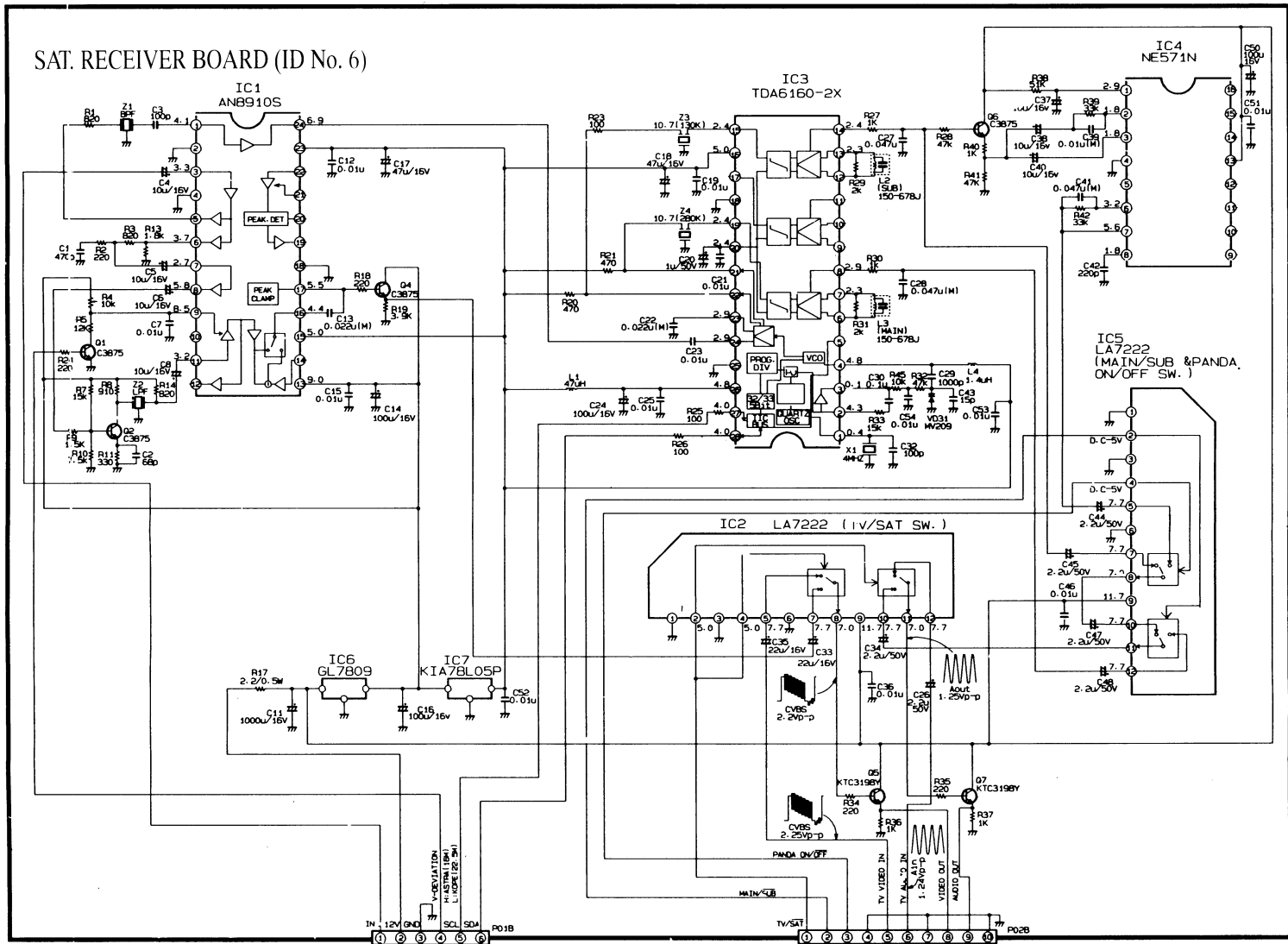
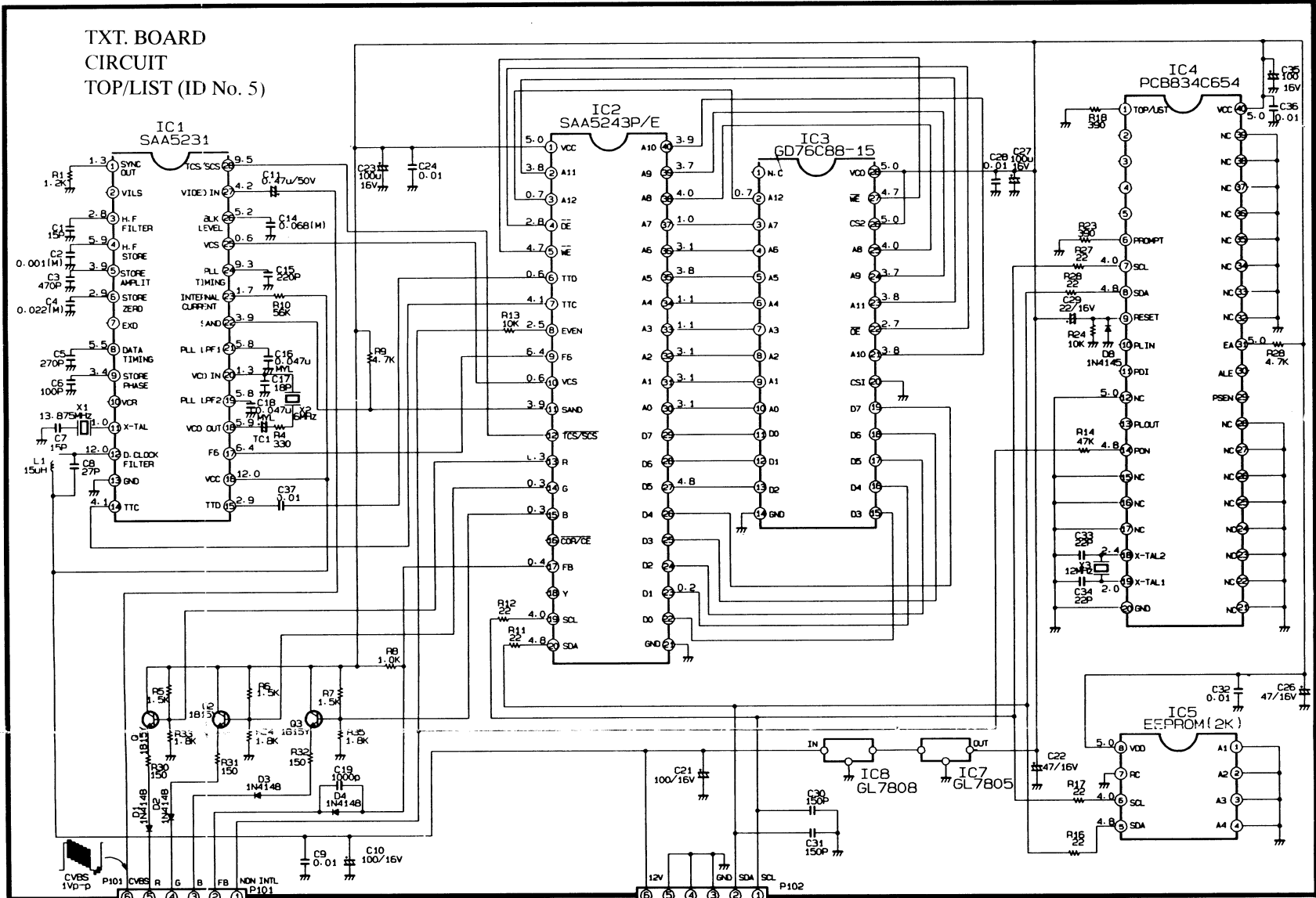
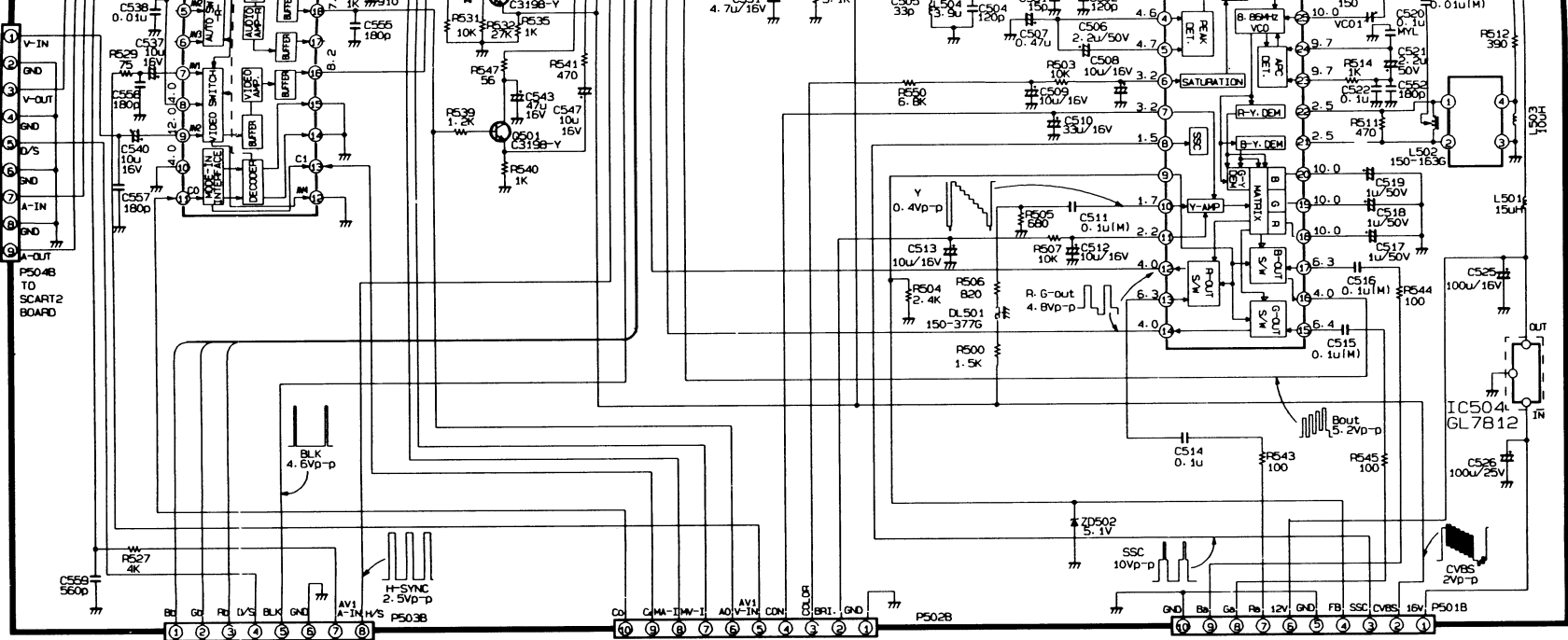


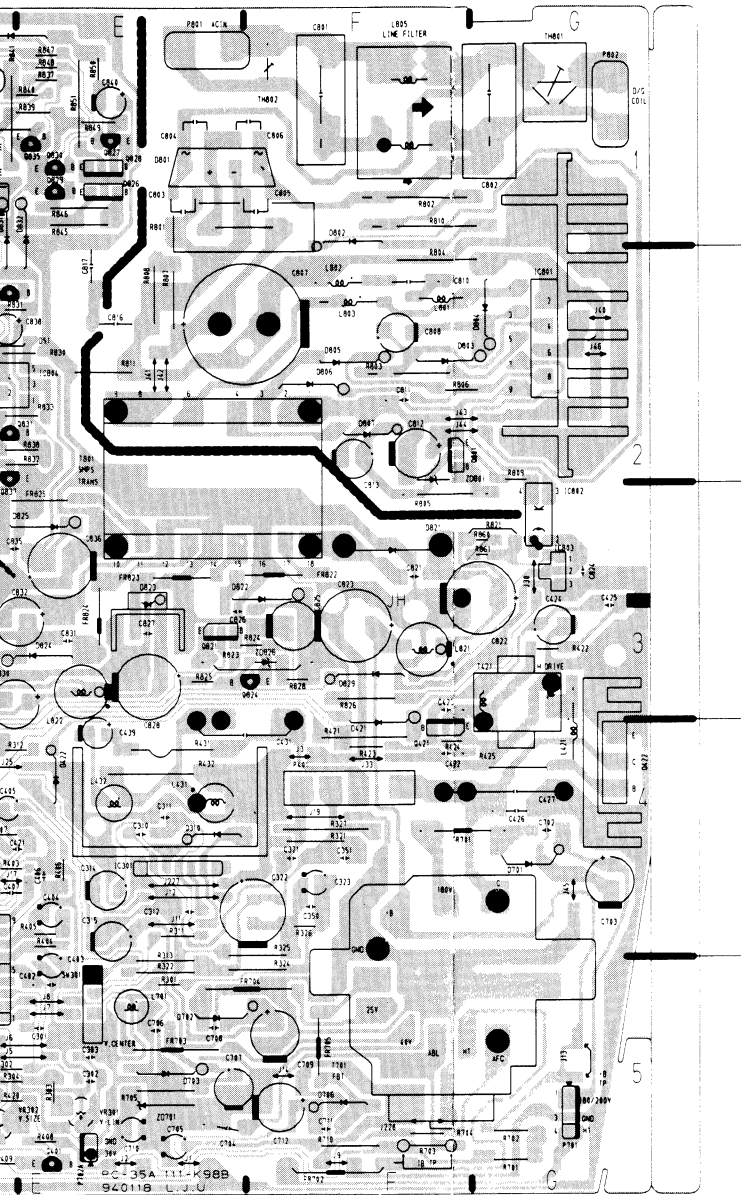
CIRCUIT DIAGRAM PC-35A (ID No. 1)



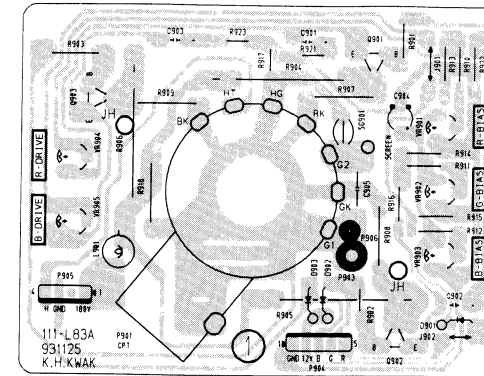




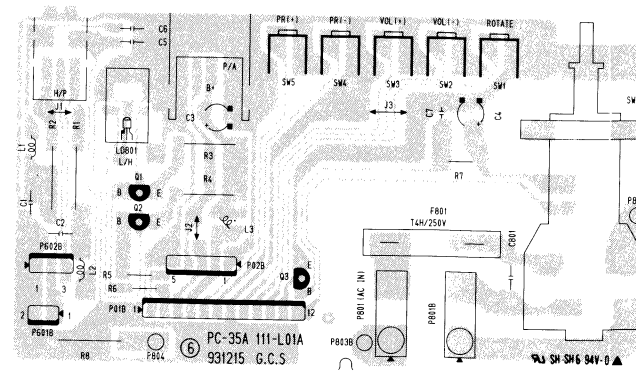




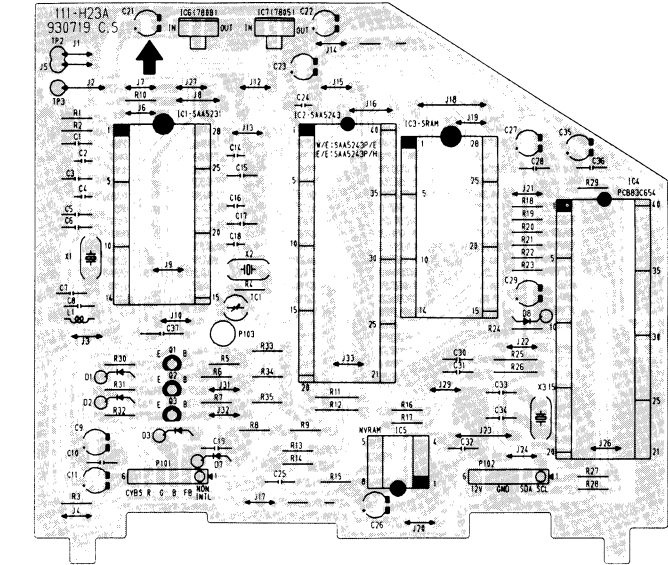
CPT P.C.B (ID NO. 2)



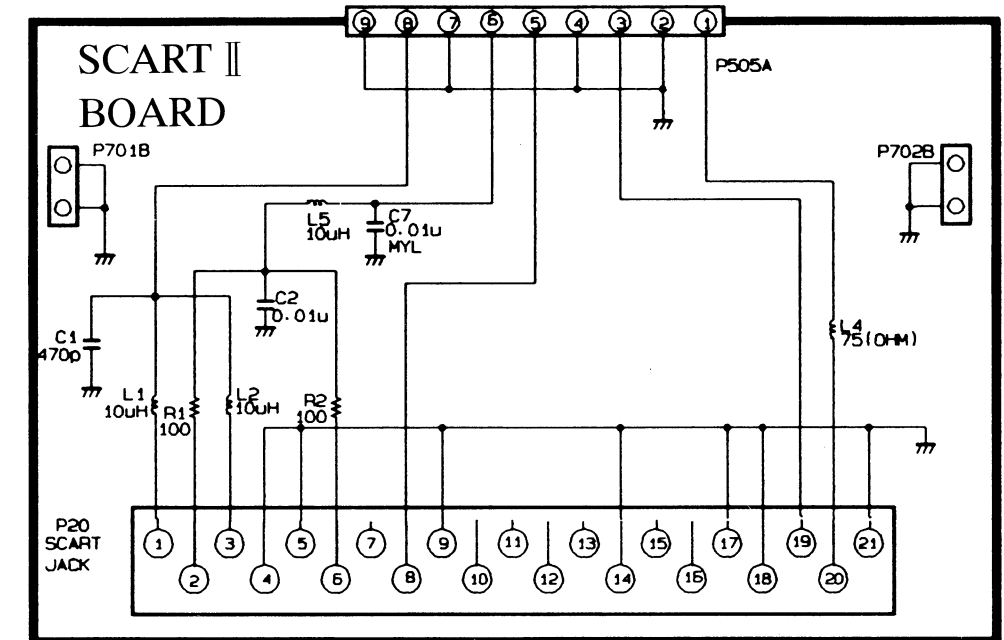
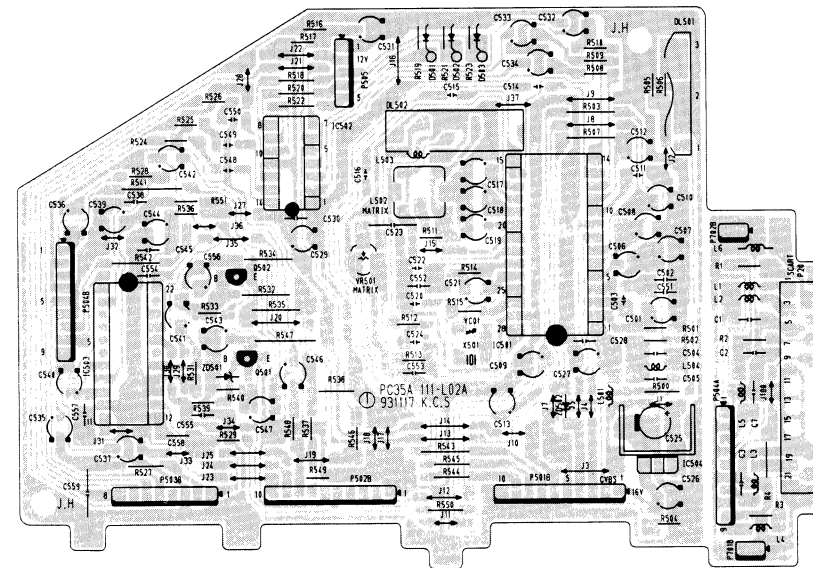
CONTROL P.C.B (ID NO. 3)



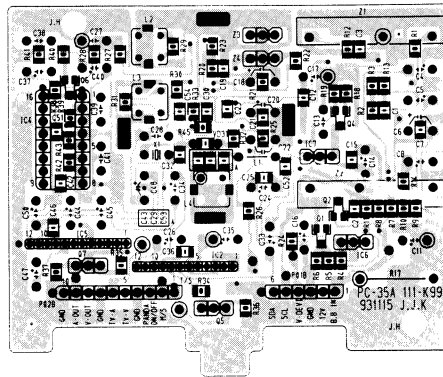
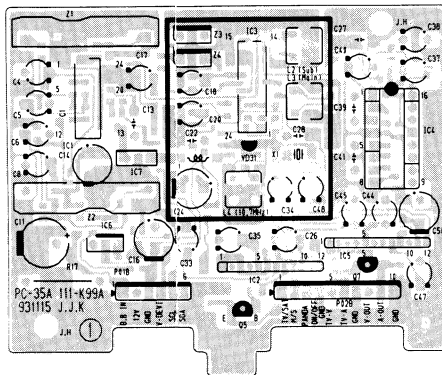
TELETEXT P.C.B (ID NO. 5)



CHROMA & SCART II P.C.B (ID NO. 4)



SATELLITE P.C.B (ID NO. 6)



★ TABLE OF INCH CONVERSION

CIRCUIT NO.	INCH			REMARK
	14"	15"	21"	
CPT	A34KPLD2XX	A36EAM11X01	A51EAL30X02	
CPT BOARD ASSY	110-F84H	110-F84J	110-097B	
D-COIL	150-276F	150-276F	150-438J	
CPT EARTH	170-799A	170-799A	170-799C	
CHROMA PCB	111-L02B	111-L02B	111-L02A	
T701(FBT)	154-064P	154-064P	154-194D	
B+	112Vdc	112Vdc	118Vdc	
C16	27p	27p	18p	AXIAL
C322	1000uF/35V	1000uF/35V	1000uF/35V	
C412	20P	-	-	AXIAL
C427	0.0062uF	0.0056uF	0.0082uF	1600V(H)
C431	0.43uF	0.50uF	0.39uF	
FR702	3	3.9	3.9	FUSING 1W
L431	150-224L	150-224D	150-224C	
L432	3300uH	3300uH	6800uH	
P701	366-932B	366-932B	366-932C	
R49	5-2K	22K	8-2K	RD 1/6W
R51	13K	8-2K	10K	
R53	5-6K	5-1K	12K	RD 1/6W
R104	1000p	1000p	-	Capa.
R324	110K	180K	180K	
R325	1	1	0.82	RN 1/2W
R411	270K	150K	330K	RD 1/6W
R413	20K	5-6K	5-6K	RD 1/6W
R414	6-8K	15K	15K	RD 1/6W
R431	180	180	220	RS 2W
R432	1K	1K	1-2K	RS 2W
R533-534-535	120	120	180	
R701	100K	82K	75K	1/4W
R821	820	820	3K	1/4W